IN THE CLAIMS:

1. (Currently amended) A method, comprising the steps of:

receiving an image signal, and

providing, in response to the image signal, a mixed image signal for providing ~~simulated active percepts~~a mixed image having an area of greater resolution and an area of lesser resolution for passive perception.

2. (Original) The method of claim 1, wherein said step of providing a mixed image signal comprises the steps of:

providing successive mixed optical images of an object space in an image space for presentation to a viewer's eye, each mixed optical image having a highly detailed component and a lesser detailed component, the successive mixed optical images for simulating percepts of optical images of the object space cast on a simulated eye's retina, and

changing the image content of selected successive mixed optical images according to the changes in the direction of the simulated eye's visual axis in the object space such that the relative direction of the visual axis of the viewer's eye with respect to the image space may analogously follow the relative direction of the simulated eye's visual axis with respect to the object space by following the highly detailed component of the successive mixed optical images presented thereto such that the highly detailed component may be cast on the fovea of the retina of the viewer's eye and the lesser detailed component may be cast on the remainder of the retina of the viewer's eye for simulating the viewer to experience percepts corresponding to the simulated percepts.

3. (Original) The method of claim 2, further comprising the step of presenting the successive mixed images at various apparent distances such that the viewer's eye may accommodate to focus on the mixed successive images at the various apparent distances.

4. (Original) The method of claim 2, wherein the highly detailed component is mobile with respect to the lesser detailed component to simulate movement of the simulated eye with respect to the simulated eye's orbit, the lesser detailed component encompassing a field of view which changes to simulate movement of the orbit's head with respect to the object space.

5. (Original) The method of claim 2, wherein the highly detailed component is immobile with respect to the lesser detailed component and wherein the highly and lesser detailed components are jointly mobile to simulate eye movement with respect to the simulated eye's orbit, the successive mixed optical images encompassing a field of view which changes to simulate the simulated eye's movement with respect to the orbit's head and which also changes to simulate movement of the head with respect to the object space.

6. (Original) The method of claim 2, wherein the successive mixed optical images are provided for panoramic presentation to the viewer's eye.

7. (Original) The method of claim 2, further comprising the steps of:

providing additional successive mixed optical images of the object space in the image space for presentation to the viewer's remaining eye, each additional mixed optical image having a highly detailed component and a lesser detailed component, the additional successive mixed optical images for simulating additional percepts of optical images of the object space from a different perspective, cast on an additional simulated eye's retina, and

changing the image content of selected additional successive mixed images according to changes in the direction of the additional simulated eye's visual axis in the object space such that the relative direction of the visual axis of the viewer's remaining eye with respect to the image space may analogously follow the relative direction of the additional simulated eye's visual axis with respect to the object space by following the highly detailed component of the additional successive mixed optical images presented thereto such that the highly detailed component is cast on

the fovea of the retina of the viewer's remaining eye for stimulating the viewer to experience additional percepts corresponding to the additional simulated percepts.

8. (Original) The method of claim 7, further comprising the step of presenting the successive mixed images and said additional successive mixed images at various apparent distances such that the viewer's eyes may accommodate to focus on the mixed successive images and the additional successive images at the various apparent distances.

9. (Original) The method of claim 8, wherein said step of presenting said successive mixed images and said additional successive mixed images at various apparent distances is carried out such that a normal relationship between accommodation and convergence is represented.

10. (Original) The method of claim 7, wherein the successive mixed optical images are provided from one image source for presentation to one of the viewer's eyes and wherein the additional successive mixed optical images are provided from another image source for presentation to the viewer's remaining eye.

11. (Original) The method of claim 7, wherein successive mixed optical images and the additional successive mixed optical images are provided from a single image source and wherein the successive mixed optical images are for presentation to one of the viewer's eyes and wherein the additional successive mixed optical images are for presentation to the viewer's remaining eye.

12. (Original) The method of claim 7, further comprising the step of providing the viewer with a plurality of audio waves for simulating audio waves which might be experienced by a pair of simulated human ears, one located on one side and one located on another side of the different perspectives.

13. (Original) The method of claim 1, wherein said step of providing a mixed image signal comprises the steps of:

responding to the image signal, in the form of reflected light, by providing an optical image signal,

impinging said optical image signal upon a surface sensitive thereto,

responding to said impinging optical image signal by converting said optical image signal to an electrical image signal,

providing an eye direction signal having a magnitude indicative of the direction of the visual axis of a human eye,

providing successive video display signals having both display format control signals and mixed image information bearing signal intelligence encoded therein, the display format control signals provided in accordance with a preselected repetitive format, the mixed image information bearing signals derived in response to the electrical signal image, each signal having a highly detailed component and a lesser detailed component, the different components for representing different portions of images, and

changing at least said image portion covered by said highly detailed component in response to said eye direction signal.

14. (Original) Apparatus, comprising:

means for providing successive mixed optical images of an object space in an image space for presentation to a viewer's eye, each mixed optical image having a highly detailed component and a lesser detailed component, the successive mixed images for simulating percepts of optical images of the object space cast on a simulated eye's retina; and

means for changing the image content of selected successive mixed images according to changes in the direction of the simulated eye's visual axis in the object space such that the relative direction of the visual axis of the viewer's eye with respect to the image space may analogously and passively follow the relative direction of the simulated eye's visual axis with respect to the object space by following the highly detailed component of the successive mixed optical images presented thereto such that the highly detailed component may be cast on the fovea of the retina of the viewer's eye and the lesser detailed component may be cast on at

least the remainder of the retina of the viewer's eye for stimulating the viewer to experience percepts corresponding to the simulated percepts.

15. (Original) The apparatus of claim 14, further comprising means for presenting the successive mixed images at various apparent distances such that the viewer's eye may accommodate to focus on the mixed successive images at the various apparent distances.

16. (Original) The apparatus of claim 14, wherein the image information in the detailed component is encoded as a plurality of closely spaced mosaic elements for presentation surrounded by the image information in the lesser detailed component encoded as a plurality of more widely spaced mosaic elements.

17. (Original) The apparatus of claim 15, wherein the means for presentation at various apparent distances comprises at least one variable magnification lens.

18. (Original) The apparatus of claim 14, wherein the means for presentation at various apparent distances comprises a varifocal mirror.

19. (Original) The apparatus of claim 14, wherein the highly detailed component is mobile with respect to the lesser detailed component to simulate movement of the simulated eye with respect to the simulated eye's orbit, the lesser detailed component encompassing a field of view which changes to simulate movement of the orbit's head with respect to the object space.

20. (Original) The apparatus of claim 14, wherein the highly detailed component is immobile with respect to the lesser detailed component and wherein the highly and lesser detailed components are jointly mobile to simulate eye movement with respect to the simulated eye's orbit, the successive mixed optical images encompassing a field of view which changes to simulate the simulated eye's movement with respect to the orbit's head and which also changes to simulate movement of the head with respect to the object space.

21. (Original) The apparatus of claim 14, wherein the successive mixed optical images are provided for panoramic presentation to the viewer's eye.

22. (Original) The apparatus of claim 14, further comprising:

means for providing additional successive mixed optical images of the object space in the image space for presentation to the viewer's remaining eye, each additional mixed optical image having a highly detailed component and a lesser detailed component, the additional successive mixed optical images for simulating additional percepts of optical images of the object space from a different perspective cast on an additional simulated eye's retina; and

means for changing the image content of selected additional successive mixed images according to changes in the direction of the additional simulated eye's visual axis in the object space such that the relative direction of the visual axis of the viewer's remaining eye with respect to the image space may analogously follow the relative direction of the additional simulated eye's visual axis with respect to the object space by following the highly detailed component of the additional successive mixed optical images presented thereto such that the highly detailed component may be cast on the fovea of the retina of the viewer's remaining eye for stimulating the viewer to experience additional percepts corresponding to the additional simulated percepts.

23. (Original) The apparatus of claim 22, further comprising means for presenting said successive mixed optical images and said additional successive mixed optical images at various apparent distances such that the viewer's eyes may accommodate to focus on successive mixed optical images and said additional successive mixed optical images at said various apparent distances.

24. (Original) The apparatus of claim 23, wherein said successive and said additional successive mixed optical images are presented at various apparent distances in such a way as to preserve a normal relationship between accommodation and convergence in the viewer.

25. (Original) The apparatus of claim 22, wherein the successive mixed optical images are provided from one image source for presentation to the viewer's eye and wherein the additional successive mixed optical images are provided from another image source for presentation to the viewer's remaining eye.

26. (Original) The apparatus of claim 22, wherein the successive mixed optical images and the additional successive mixed optical images are provided from a single image source and wherein the successive mixed optical images are for presentation to the viewer's eye and wherein the additional successive mixed optical images are for presentation to the viewer's remaining eye.

27. (Original) The apparatus of claim 22, further comprising means for providing the viewer with

a plurality of audio waves for simulating audio waves which might be experienced by a pair of simulated human ears, one located on one side and one located on the other side of the different perspectives.

28. (Previously presented) The apparatus of claim 14, wherein the means for providing successive mixed optical images comprises:

a lens, responsive to reflected light from an illuminated object space for providing a light image thereof;

a light sensitive surface, responsive to the light image for converting the light image to an electrical signal image stored by the surface;

means for providing an eye direction signal indicative of the direction of the visual axis of a monitored human eye actually observing the object space; and

wherein the means for changing the image content of selected successive mixed images comprises:

a camera controller, responsive to the electrical signal image for providing successive video display signals each having both display format control signals and mixed image information bearing signals encoded therein, the mixed image information bearing signals derived from the electrical signal image, each having a

highly detailed component and a lesser detailed component, the camera controller means for formatting the mixed image information contained in the successive video display signals and providing mixed image information bearing signals with a highly detailed component and a lesser detailed component for representing different portions of the object space and for changing at least the portion of the object space represented by the highly detailed component in response to the eye direction signal.

29. (Previously presented) The apparatus of claim 14, wherein the means for providing successive mixed optical images of an object space in an image space comprises a display surface, responsive to a display signal, for providing the mixed optical images and wherein said means for changing the image content of selected successive mixed images according to changes in the direction of the simulated eye's visual axis in the object space is a display controller, responsive to successive video display signals each having both display format control signals and mixed image information bearing signals encoded therein, for decoding the display format control signals for controlling the format of the image information bearing signals for providing the display signal.

Claims 30 - 34 (cancelled)

35. (New) The method of claim 1, wherein said areas of greater resolution and said area of lesser resolution are each made of pixels wherein pixels associated with the area of greater resolution are individually controlled for luminance while pixels associated with areas of lesser resolution are grouped together in multiple areas of lesser resolution for control of luminance in each individual group as a group of pixels all having the same group luminance so that the area of greater resolution is displayed with resolution comparable to foveal resolution while the areas of lesser resolution are displayed with resolution comparable to nonfoveal resolution of the human retina.

36. (New) The method of claim 35, wherein each area of lesser resolution comprises a plurality of pixels assembled in a square area wherein said entire square is controlled at a same luminance.

37. (New) The method of claim 36, wherein said area of greater resolution also comprises a plurality of pixels forming a square but wherein said pixels in said square area of greater resolution are controllable individually for luminance.

38. (New) The apparatus of claim 14, wherein said highly detailed component and said lesser detailed component are each made of pixels wherein pixels associated with said highly detailed component are individually controlled for luminance while pixels associated with said lesser detailed component are grouped together for luminance control.

39. (New) The apparatus of claim 38, wherein said lesser detailed component comprises a plurality of squares of pixels, the pixels of each square controlled together at a same luminance.

40. (New) The apparatus of claim 39, wherein said highly detailed component comprises a plurality of pixels forming a high resolution square wherein said pixels in said high resolution square are controllable individually for luminance.

41. (New) The apparatus of claim 14, comprising a panoramic camera for providing successive panoramic mixed optical images.

42. (New) The apparatus of claim 41, wherein said panoramic images are collected using a spherical plano convex lens in said camera.

43. (New) The apparatus of claim 41, further comprising means for transmitting an encoded image signal to a display for viewing panoramic mixed optical images gathered by said camera remotely.